

HADROUSKOVA, M.

Hospitals in Brno to 1947. Lek. listy 5 no.19:576-584 1
Oct. 1950. (CJML 20:1)

1. Of the Institute of Social Medicine of the Medical
Faculty in Brno (Head--Prof. E. Tomanek, M. D.).

HADROUSKOVA, M.

Review of social medicine in Brno to 1947. Lek. listy
5 no.20:610-615 15 Oct. 1950. (CLML 20:1)

1. Of the Institute for Social Medicine of the Medical
Faculty in Brno (Head--Prof. E. Tomanek. M. D.)

SCHOBL, V.;HADROUSKOVA, M.

Course of the epidemic acute gastroenteritis due to Salmonella enteritidis Gaertner in the state boys school in Brno in September, 1950. Lek. listy, Brno 7 no. 12:301-303 15 June 1952. (CLML 22:3)

1. Of the Pediatric Department (Head--Docent O. Saxl, M. D.) of Brno-Cerna-Pole State District Hospital and of the Health Department (Head--V. Savadina, M. D.) of Brno Central State Committee.

HADRCUSEK, Z.

Direct conversion of nuclear electric power. Elektrotechnik
17 no.1:16 Ja '62.

POLAND/Human and Animal Physiology - Effects of Physical Factors. Ionizing Radiation.

T-11

Abs Jour : Ref Zhur - Biol., No 18, 1958, 34693

Author : Benonowski, Boleslaw; Haduch, Stanislaw

Inst : -

Title : Effects of Cortisone upon the Viability of White Mice Subjected to General X-Ray Irradiation.

Orig Pub : Polski przegl. radiol., 1957, 21, No 2, 113-115

Abstract : Subcutaneous injections of a 0.5 mg dose of cortisone (C) given to 40 mice for 3 days following 500 r irradiations, resulted in accelerated and increased mortality as compared with control animals (25), which did not receive C after irradiation (100 percent mortality in 15 days as against 80 percent in 30 days). In the non-irradiated group of mice (16) which received the same dosage of C, the survival rate amounted to 100 percent for a period of 30 days. -- E.B. Glikson

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P/044/60/008/004/009/012

AUTHORS: Haduch, S., Colonel, Doctor of Medicine; Baranski, S., Major, Doctor of Medicine

TITLE: Review of Achievements in Cosmic Medicine

PERIODICAL: Wojskowy Przegląd Lotniczy, 1960, Vol. 8, No. 4, pp. 70 - 76

TEXT: A brief review of the second Worldwide Aviation and Cosmic Medical Congress held late in 1959 at Rome is given. Soviet, Czechoslovakian, Hungarian and Polish delegations participated. The Polish delegation consisted of Colonel Doctor of Medicine Zygmunt Bielicki, Colonel Physician Stanislaw Haduch, Lieutenant Colonel Physician Miroslaw Ornowski, Major Physician Stanislaw Baranski and representatives of the Polish Aero Club Doctor Jercy Bibrych and Doctor Waclaw Kornaszewski. Following papers were read by Soviet bloc representatives: "Changes in the Electrocardiogram caused by Oxygen Insufficiency" by Lieutenant Colonel Physician Ornowski, "Oxygen Insufficiency in the Central Nervous System" by Major Physician Baranski and "Biological Research on Animals During Rocket Flights" by the Soviet representatives Professor Kuznetsov and Doctor of Sciences Gazenko. US-made space suits, heat resistant suits and the test cabin in the Gravity Laboratory of

Card 1/2

Review of Achievements in Cosmic Medicine

P/044/60/008/004/009/012

the Italian Medical Aviation Institute are described and shown on photographs.
There are 3 photographs.

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Card 2/2

HADUCH, S.

Physiological problems of aviation medicine. Acta physiol. polon.
11 no.5/6:715-717 '60.

1. Z Wojskowego Instytutu Medycyny Lotniczej.
(AVIATION MEDICINE)

HADUCH, S.; BARANSKI, S.; CZERSKI, P.

Effect of microwave radiations on the human organism. Acta physiol.
polon. 11 no.5/6:717-719 '60.

1. Z Wojskowego Instytutu Medycyny Lotniczej.
(MICROWAVES)

EDELWEJN, Zbigniew; HADUCH, Stanislaw

Electroencephalographic studies on subjects employed within the reach of microwaves. Acta physiol. polon. 13 no.3:431-435 '62.

1. Z Pracowni Elektroencefalograficznej Wojskowego Instytutu Medycyny
Lotniczej Kierownik: doc. dr St. Marczewski.
(ELECTROENCEPHALOGRAPHY) (MICROWAVES)

HADUCH, S.

L 18810-63

EWT(1)/FS(v)-2/BDS/ES(a)/ES(j)/ES(c)/ES(k) AMD/AFFTC/

ASD Pb-4 A/DD

ACCESSION NR: AP3005965

P/0044/63/000/008/0059/0063

AUTHOR: Bialicki, Z. (Col., M.D.), Haduch, S. (Col. M. D.), Etmanowicz, S.
(Lt. Col., Eng)

TITLE: Overload ^{2/}centrifuge for tests on flight personnel

SOURCE: Wojskowy przeglad lotniczy, no. 8, 1963, 59-63

TOPIC TAGS: centrifuge two-motor drive, Leonard circuit, flight personnel check

ABSTRACT: The overload centrifuge tests the effects of overweight between 1 and 30 times gravity, at normal and reduced atmospheric pressures. It also serves to test the strength of materials and apparatus subject to these stresses. The centrifuge is driven by two d.-c. motors, 440 v, 220 kw each, 600 rpm. The active radius of cabin rotation is 9 m. overload regulation may be either by hand or automatic. Recorders and amplifiers transmitting body reactions are connected by cables to an outside board. The range of centrifuge operation is represented on Figure 1 of Enclosure 1 according to the following order: start I, stabilized operation I, start II, stabilized operation II, braking I, stabilized operation III, braking II. Time of stable operation may be set between

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ACCESSION NR: AP3005965

0 and 30 min. The shortest time for obtaining an acceleration of 22 g is 4.5 sec.; time for obtaining max acceleration is 30 sec. The increase in acceleration is in 0.3 g steps. The direction of acceleration action may be changed by changing the position of pilot's seat. In case of an accident the machine may be brought to rest in 5-6 sec. from a 22 g figure and in 9.5 sec. from a 30 g figure. Pressure in the cabin is continuous up to 20 mm Hg, at 75 m/sec velocity. Decompression up to 250 Hg may be attained in 1 sec. The cross section of the centrifuge in its building is shown on Figure 2. The building has two floors, with rooms for machinery and servicing. The two d.c. motors driving the arm are connected in Leonard circuit. The turning moments are transmitted through two sets of transmission gears. Braking may be accomplished either with motors or through pneumatic brakes. The Gleason gear has a 1:2.6 ratio. The gear ratio at shaft is 1:5.25. The arm is connected to the main shaft by means of a head with a special collar. On the head are located also the transformer and a TV set. At the end of the arm there is a bearing for cabin suspension. The vacuum installation is inside the arm. It is possible to regulate the position angle of the pilot cabin. Cross section of the cabin is shown on Figure 4 of Enclosure 4. Position of the body in the cabin may be changed, and also may be changed the direction in which the artificial

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ACCESSION NR: AP3005965

gravity force will act, using special weights for this purpose. The cabin is hermetically sealed permitting to maintain pressure below atmospheric. The centrifuge permits to conduct a full set of tests including those simulating high altitude. Orig. art. has 4 figures

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 26Aug63

ENCL: 04

SUB CODE: CG, AS

NO REF SOV: 000

OTHER: 000

Card 3/B

POLAND

GRABECKI, Jerzy, dr med; HADUCH, Teresa, mgr.

Department of Toxicology, Institute of Occupational Medicine
in the Coal Mining and Mill Industry (Pracownia Toksykologiczna,
Instytut Medycyny Pracy w Przemysle Węglowym i Hutniczym),
Zabrze (for both)

Warsaw, Chemia analityczna, No 6, November-December 1965, pp 1311-16

"Application of phenolphthalein as a standard in a simple
absorptiometric method for the determination of delta-
aminovalinic acid."

HADWIGER, E.

"Theory of metalworking" by Zdenek Pribyl. Reviewed by E. Hadwiger.
Jemna mech opt 5 no.2:74 F '60.

HADWIGER, Ed.

"Mechanical technology" by E. Tomecek. Reviewed by Ed. Hadwiger.
Jemna mech opt 5 no.4:131 Ap '60.

HADWIGER, E.

"Modern forging technology" by Fr. Drastik. Reviewed by
E. Hadwiger. Jemna meoh opt 6 no.2:67 F '61.

HADWIGER, E.

"Forging" by Fr. Drastik. Reviewed by E. Hadwiger. Jenna
mech opt 6 no.2:66 F '61.

HADWIGER, E.

Standardization in technology. Jemna mech opt 6 no. 6:173-174.
Jr '61

HADWIGER, E.

"On machine tools and machining" by H. Gerling. Reviewed by E. Hadwiger.
Jenna mech tech 6 no. 7: 223. J1 '61

HADWIGER, E.

"Engineer's handbook for machinery construction" by Dubbel. Reviewed
by E. Hadwiger. Jemna mech opt 6 no.11:349 N '61.

HADWIGER, E.

"Processing of aluminum and its alloys and their use" by
J.Chvojka and M.Brzobohaty. Reviewed by E.Hadwiger. Jemna
mech opt 6 no.12:383 D '61.

HADWIGER, E.

"Component parts for fine mechanics" by Richter, Voss and Kozer.
Reviewed by E.Hadwiger. Jemna mech opt 6 no.12:383 D '61.

HADWIGER, E. (Meipta, n.p., Prerov)

Standardization of tools and standard indexes. Jemna mech opt
7 no.1:28-30 Ja '62.

HADWIGER, E.

"40,000 gear transmissions" by V. Klepal. Reviewed by
E. Hadwiger. Jemna mech opt 7 no.2:64 F '62.

HADWIGER, E.

"Technical physics" by Z.Horak and F.Krupka. Reviewed by
E. Hadwiger. Jemna mech opt 7 no.2:64 F '62.

HADVIGER, E.

"Steel" by V. Jaros. Reviewed by E. Hadviger. Jenna mech opt
7 no.10:322 0 '62.

L 41241-66 EMP(c) EMP(v)/T/EMP(k)/EMP(h)/EMP(1) 11.16
ACC NR: AP6030508 SOURCE CODE: CZ/0030/66/000/003/0077/0082
AUTHOR: Hadwiger, E. 2/
ORG: none B
TITLE: Influence of production tolerances on economy in the production of press
tools d
SOURCE: Jemna mechanika a optika, no. 3, 1966, 77-82
TOPIC TAGS: metal press, metallurgic machinery
ABSTRACT: The article presents the principles and a method of determination of
economic tolerances in the manufacturing of press tools. Detailed formulas,
calculations and tables of tolerances are given, as well as practical examples,
with the aims of reducing the cost, improving the cutting qualities, lengthening
the service life, and improving the quality of production. Orig. art. has:
11 figures, 23 formulas and 8 tables. [JPRS: 36,645]
SUB CODE: 13 / SUBM DATE: none

Card 1/1 MLP

0918 1587

HADWIGER, H.

Hadwiger, H. Remarque sur la décomposition des ensembles de même mesure en parties (respectivement) congruentes. Soc. Sci. Lett. Varsovie C. R. Cl. III. Sci. Math. Phys. 40 (1947), 50-55 (1948) (French) Polish summary.

In n -dimensional euclidean space let A and B be Lebesgue measurable sets each having diameter $\leq D < \infty$ and with $m(A) = m(B)$. Corresponding to each $\epsilon > 0$ there is a positive number n and sets $A_r, B_r, r=1, 2, \dots, n$ such that: (1) $A \supset \sum_{r=1}^n A_r, B \supset \sum_{r=1}^n B_r$, (2) A_r, B_r are measurable; (3) $A_r A_s = 0, B_r B_s = 0$ for $r \neq s$, (4) A_r and B_r are congruent; (5) $m(A - \sum_{r=1}^n A_r) = m(B - \sum_{r=1}^n B_r) < \epsilon$. This approximate decomposition theorem is proved with the additional feature that a dependence of n upon ϵ is obtained by establishing

sequences A_r and B_r with the remainder in (5) having measure less than $D^n [2^{1/n}/n]^k$.

J. F. Randolph

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Source: Mathematical Reviews.

Vol. 13 No. 2

Hadwiger, H. Einige einfache Sätze über Distanzmittel
bei konvexen Körpern. Bul. Inst. Politech. Iași 4
(1949), 30-35.

Let $K_1, \dots, K_r$ be convex bodies in E^n . For any point x
define $p_r(x) = \min_{y \in K_r} xy$, $q_r(x) = \max_{y \in K_r} xy$ (xy denotes
distance). For $\alpha \geq 1$ put $M_\alpha(x) = [r^{-1} \sum p_r^\alpha(x)]^{1/\alpha}$, $N_\alpha(x) =$
 $[r^{-1} \sum q_r^\alpha(x)]^{1/\alpha}$. The functions $M_\alpha(x)$ and $N_\alpha(x)$ are con-
vex. The sets M, N where $M_\alpha(x)$ or $N_\alpha(x)$ attain their
minima are convex. Moreover, $\dim N \leq 1$, $\dim M \leq n$ with
the inequality for $\alpha > 1$.

H. Busemann (Cambridge, Mass.)

JW
1/1

md

HADWIGER, H

2

Über beschränkte additive Funktionale konvexer Polygone. Publ. Math. Debrecen 1, 104-108 (1949).

All functionals $\varphi(A)$ defined on all closed convex polygons A in E_2 and with the following 3 properties are determined:
 (1) $\varphi(A) = \varphi(A')$ if A' originates from A by a translation.
 (2) $\varphi(A+B) = \varphi(A) + \varphi(B) - \varphi(AB)$, where $A+B$ is a convex polygon decomposed by the chord AB into A and B (here AB is to be considered as the closed polygon obtained by traversing the segment AB in two directions), (3) $|\varphi(A)|$ is bounded for all A in the unit square. As an application a result of Blaschke [Vorlesungen über Integralgeometrie, vol. II, Teubner, Leipzig-Berlin, 1937, § 43] is derived which determines the same functionals with (1) replaced by $\varphi(A) = \varphi(A')$ for congruent A and A' . H. Hadwiger.

Source: Mathematical Reviews,

Vol. 12, No. 2

Handwritten signature

HADWIGER, H.

Hadwiger, H. Neue Integralrelation für Eukörperpaare.
Acta Univ. Szeged. Sect. Sci. Math. 13, 252-257 (1950)

Let V and V_0 be the k -dimensional contents of two convex bodies in Euclidean k -space. Let dF and dF_0 be their elements of $(k-1)$ -dimensional content at points P and P_0 on their boundaries. Let γ be the angle between the outward normals to the respective bodies at P and P_0 , let α and α_1 be the angles that these normals make with the direction from P to P_0 , and let r be the distance PP_0 . The author establishes several relations such as $\int \int r^2 \cos \gamma dF dF_0 = -2kV_0V$, and $\int \int r^2 \cos \alpha \cos \alpha_1 dF dF_0 = -k(k+1)V_0V$. Further, if $\mathbf{r}$ and $\mathbf{r}_0$ are the position vectors of P and P_0 , so that $(\mathbf{r}-\mathbf{r}_0)^2 = r^2$, he finds that

$$F_0 \int \mathbf{r} dF + F \int \mathbf{r}_0 dF_0 = 2kV_0V + 2 \int \int \mathbf{r} \cdot \mathbf{r}_0 dF dF_0.$$

H. S. M. Coxeter (Toronto, Ont.)

Source: Mathematical Reviews.

Vol. 12 No. 1

Geometry
differential
Topology

Smulup

HADWIGER, H.
Translation Invariants,
Additive and Steady
Convex Area Functions

Hadwiger, H. Translationinvariante, additive und stetige
Einhüllenfunktionale. Publ. Math. Debrecen 2, 81-94
(1951).

Let $\varphi(A)$ be a function defined for all bounded closed convex sets A of the plane, invariant under translations of A , and additive. The latter property means: if the chord $A \cap B$ decomposes $A \cup B$ (supposed convex) into A and B , then $\varphi(A \cup B) = \varphi(A) + \varphi(B) + \varphi(A \cap B)$. The function $\varphi(A)$ is continuous if $A \rightarrow A'$ in the usual sense of the theory of convex bodies implies $\varphi(A) \rightarrow \varphi(A')$. If $\beta(\varphi)$ is a continuous function with period 2π , denote by $L_\beta(A)$ the integral $\int \beta(\varphi_s) ds$, where φ_s is the angle which the tangent of the curve A bounding A forms with a fixed direction at the point corresponding to the value s of the arc length. The main theorem is: $\varphi(A)$ is a continuous and additive function, invariant under translations of A if and only if constants α , γ and a function $\beta(\varphi)$, all independent of A , exist such that $\varphi(A) = \alpha + L_\beta(A) + \gamma F(A)$, where $F(A)$ is the area of A . The degree of arbitrariness of $\beta(\varphi)$ is discussed. The known form $\varphi(A) = \alpha + \beta L(A) + \gamma P(A)$, where $L(A)$ is the length of A , for φ which are invariant under all motions of A is easily derived from the above result. H. Busemann.

Source: Mathematical Reviews,

Vol 13 No. 10

On Concave and Convex Body Families

Hadwiger, H. Über konkave und konvexe Eukörper-scharen. Publ. Math. Debrecen 5 (1957), 97-101. 2

A family K of convex bodies in Euclidean k -space is called a canal family if there exists a $(k-1)$ -hyperplane E^0 such that all bodies of K have the same orthogonal projection onto E^0 . A one-parameter canal family $K = \{A(\lambda)\}$, where λ runs through some interval J , is called totally concave [convex] if it is concave [convex], that is, $A((1-\theta)\lambda_0 + \theta\lambda_1) \supseteq [(1-\theta)A(\lambda_0) + \theta A(\lambda_1)]$, for $\lambda_0, \lambda_1 \in J$, $0 \leq \theta \leq 1$, and if the same relation holds for every canal family consisting of the intersections of the bodies $A(\lambda)$ with a flat of dimension $< k$ orthogonal to E^0 . Concavity implies total concavity, and total convexity follows from the second condition for straight lines only. Both properties are preserved under orthogonal projections of the family. By means of this remark, it is easily seen that each of the mixed volumes $W_i(A(\lambda))$, $i=0, 1, \dots, k$, of the bodies $A(\lambda)$ of a totally concave [convex] family is a concave [convex] function of λ . Corollaries: The fact that $A(\lambda) = (1-\lambda)A_0 + \lambda A_1$, where A_0 and A_1 have the same projection onto E^0 and $0 \leq \lambda \leq 1$, is totally concave, yields linear refinements of the quadratic inequalities between certain mixed volumes of A_0 , A_1 and the unit sphere. In the special case where A_1 is the body A_0 symmetric to A_0 with respect to E^0 , the family yields a continuous Blaschke symmetrization, and it

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Hadwiger, H.

follows that the quantities $W_i(A_0)$ do not decrease under this symmetrization. The family

$$A(\lambda) = U_G[(1-\lambda)A_0 \cap G + \lambda A_1 \cap G],$$

where G ranges over the lines orthogonal to E^0 and intersecting A_0 and A_1 , is totally convex. For $A_1 = A_0$ it yields a continuous Steiner symmetrization, and it follows that the $W_i(A_0)$ do not increase under this symmetrization.

W. Fenchel (Copenhagen).

Sym

HOFFMAN B., WYDOL B.

Udział pałeczki okrężnicy w etiologii biegunok dziecięcych. [Coli
bacteria in the etiology of infantile diarrhea] *Pediatr polska* 24:5-6
May-June 50 p. 382-9

1. Of the Pediatric Clinic of Wrocław Academy of Medicine (Head—
Prof. Hanna Hirszfelcowa, M.D.).
2. Of the National Institute for Hygiene, Branch in Wrocław (Head—
Eng. A. Szniolis, Scientific Consultant Prof. L. Hirszfelc, M.D.).

HADYDON, Boleslaw

Adrenogenital syndrome in children. Pediat. polska 32 no.12:1411-1417
Dec 57.

(ADRENOGENITAL SYNDROME
(Pol))

EXCERPTA MEDICA Sec 13 Vol 13/3 Dermatolōgy Mar 59

785. TRIALS OF TREATMENT OF INFANTILE ECZEMA BY MEANS OF FACTOR F - Próby leczenia wyprysku dziecięcego czynnikiem F - Hadydōń B. and Cichocki W. Ambulatorium Pediat. przy Wojskowym Szpit. Okręgowym, Wrocław - PEDIAT. POL. 1958, 33/2 (145-153) Tables 1

Fourteen children afflicted with generalized eczema were treated with a preparation containing dehydrogenated fatty acids with admixture of 1% magnesium. The treatment lasted from 3 to 5 months; the drug was administered as drops and in the form of a 20% ointment. In all cases complete cure was obtained, and in the majority of undernourished children there was an increase in weight. In 3 children with co-existing seborrhoeal diathesis, the authors noted the disappearance of eczematous changes. The authors ascribe the therapeutic properties of dehydrogenated fatty acids to the metabolic and physicochemical functions of these acids. The authors suggest that fatty acids take part in the formation of the cellular membranes. They view the treatment as a substitution therapy, and eczema itself as a disease based on a deficiency in unsaturated fatty acids.

HADYDON, Boleslaw; MASIAK, Michal; CICHOCKI, Wacław

Pathogenic role of dehydrogenized fatty acids and biotin in certain diseases. Polski tygod. lek. 15 no. 9: 311-315 29 X '60.

1. Z Ambulatorium Pediatricznego Wojskowego Szpitala Okręgowego we Wrocławiu.

(BIOTIN defic.)

(FATTY ACIDS defic.)

(ECZEMA etiol.)

(ARTERIOSCLEROSIS etiol.)

HADYDON, Boleslaw

Intragastric drip infusions. Pediat pol 36 no.12:1269-1270
D '61.

1. Z Oddzialu Noworodkow Szpitala Okregowego we Wroclawiu
Ordynator: lek. med. B. Hadydon.
(PEDIATRICS ther) (STOMACH)

HADZE, Avdo Beganovic

"Hreptococcus Agalactial in Sheep". Assistant at Vet. Faculty, Sarajeva & now specializing at the Inst. for Vet. & Medical Researches in Zagreb.

SOURCE: Ve. . BROJ 8-9-10, p. 843, 1952

HADZE, Avdo Beganovic

"Properties of micrococci- the casual agents of ganrenous Mastitis of sheep & goats in Croatia." Inst. for Microbiology, Vet. Fac. U. of Zagreb.

Vet. 2 : 696-711, 1953

HADZHIMASANOVIC, Hakija, inz.; FILIPOVIC, Ibrahim, inz.;
BOGASEVIC, Mladen

Problems and measures of securing necessary capacities for
the production and maintenance of railroad rolling stock.
Železnice Jug 19 no. 11: 13-18 N '63.

HADZI-BOSKOV, Aleksandar; GLAVAS, Oton

Acute corrosive injuries of the esophagus treated in the
Otolaryngological Clinic in Skopje during the past 10 years.
God.Zborn.Med.Fak.Skopje no.10:115-129 '63.

1. Otorinolaringoloska klinika na medicinskiot fakultet,
Skopje (upravnik prof. d-r Aleksandar Andreevski).

^H
HADZI, Dusan

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Fuels and Carbonization Products

The physics and chemistry of coke formation. Dusan Hadzi (Chem. Inst. Slovenian Acad. Arts Sci., Ljubljana, Yugoslavia). *Kem. Zbornik* 1951, 15-20.—It is hoped that a detailed knowledge of the conditions for coke formation will make it possible to obtain solid coke from sources which do not usually yield it. A chem. and phys. study of coke of different geologic age is discussed. It is detd. that coke formation is primarily a problem of bitumen formation. Certain C compds. have been synthesized which are very similar to the bitumens in mol. structure, etc. It is hoped that the addn. of such compds. to lignite or brown coal will produce hard coal. J. Rovtar Lenč.

YUGOSLAVIA

HADZI-ANTONOVIC, Olga, Dr.; RADOJICIC, Borivoje, Dr.; MIKOLIC, Pas-
kal, Dr.: Neuropsychiatric Clinic, Faculty of Medicine, University
of Belgrade (Head: Prof. JEVIC, Uros, Dr.); Pediatrics Clinic,
Faculty of Medicine, University of Belgrade (Head: Prof. TASOVAC,
Borivoje, Dr.) (Neurosihijatrijska klinika Medicinskog fakulteta
Univerziteta u Beogradu; pedijatrijska klinika Medicinskog fakul-
teta Univerziteta u Beogradu), Belgrade.

"Our Experience in the Treatment of Chorea Minor in Children"

Belgrade, Srpski arhiv za celokupno lekarstvo, Vol 93, No 12, 1965,
pp 1115-1121

Abstract: The authors present the results of treatment of 106 pa-
tients between the ages of 5 and 18 with largactil, which was ad-
ministered orally in doses of 75 to 225 mg daily. Complete sus-
pension of choreatic movement after one week of treatment occurred
in 9.43% of the patients; after two weeks - 51.88% of the patients;
and after three weeks - 86.78% of the patients. Treatment exceed-
ing three weeks was necessary for 13.22% patients. The results
obtained are compared with those of other authors, and they were
found to be good and rapid. 3 Eastern, 8 Western references.
Manuscript received 13 Aug 65.

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CA
HADZHI, D.

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Some infrared spectra of coal extracts and derivatives. Dusan Hadzi (Slovene Acad. Sci. Arts, Ljubljana, Yugoslavia). *Trid. Sci. et Art Sloven. (Ljubljana) Class III, Ser. A, Razprave* 3, 99-107 (in English, 108-11) (1951).—Spectra of 3 fractions of a $C_{10}H_8$ ext. from coal of the Rada seam (cf. preceding abstr.) and of a tar pitch were studied. The pitch was a com. product distd. to 350°. Specimens were analyzed as thin films obtained by the evapn. of CCl_4 solns. on rock-salt plates. The ext. sol. in CCl_4 had the lowest content of aromatics and the highest of phenols, whereas the pitch fraction had the highest content of aromatics and no band at 3.1 μ which was taken to indicate the absence of phenols. The material insol. in petr. ether and the carbonates occupied intermediate positions. It is concluded that the substances examd. were substantially similar differing in the content of phenolic, carbonyl, and methyl groups and in the degree of unsat. and aromaticity, but having the same type of C skeleton which was probably made up of condensed aromatic, partially hydrated rings. Humic acids were obtained from Kreka coal by extg. with 3 N NaOH under 20 atm. for one hr. A film of the material was obtained by evapn. of a pyridine soln. A Nujol mull of deuterated humic acids was also analyzed. The deuterated product was obtained by shaking a small quantity of a humic acid prepn. with heavy water and then drying. Absorption having a max. at 3.25 μ is attributed to phenolic hydroxyl groups. This is substantiated by the deuterated sample where a new band at 3.88 μ is attributed to bonded phenolic (O—D). Absorption at 1700 cm^{-1} results from the presence of a carbonyl group. There is no marked absorption at 900 cm^{-1} , indicating a lack of acid dimers and, consequently, that the acidic groups in the humic acid are mainly phenolic. Irvine A. Brenner

^H
HADZI, D.
^A

Yugoslavia (430)

Technology

Infrared spectroscopy. p. 162, Nova Proizvodnja,
Vol. 2, no. 3, May 1952.

East European Accessions List, Library of Congress.
Vol. 2, No. 3, March 1953. UNCLASSIFIED.

H.
HADI, D.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Fuels and Carbonization Products

Investigations on various substances having coking properties. D. Hadi, B. Popović, and M. Samec. *Bull. Inst. Chem. Acad. Sci. Rep. Yugoslav. 1, 14-15(1953)* (in English).—On the basis of expts. obtained with a no. of substances, such as a product of pyrolysis of di-2-naphthyl sulfone, hydrocarbons prepd. by reacting naphthalene or anthracene with $AlCl_3$, a product of pyrolysis of polyvinyl chloride, and a series of quinones, it is concluded that there are no requirements for the presence of S or O in substances having coking properties.
N. Plavšić

Hand 211 0.

YUGO .

✓ The 3-μ region infrared absorption bands associated with the COOH group in dimeric carboxylic acids. S. Bratoz, D. Hadzi, and N. Sheppard (Chem. Ind. (Lond.) 1953, 1954; J. Chem. Phys., Yugoslavia). Bull. sci. Conseil acad. RPF Yugoslavia, 1, 71-2(1953)(in English).—Data are given showing that calcd. and observed values of summation bands due to extra peaks observed in the 3-μ region of the infrared spectra of acetic, formic, and benzoic acids are in good agreement. The same applies for the mono-, di-, and trichloroacetic acids. H. B. ...

HADZI, D.

YUGOSLAVIA / Chemical Technology, Chemical Products and Their Application. Part 3. - Treatment of Solid Combustible Minerals. H-21

Abs Jour : Ref. Zhur. Khimiya, No 4, 1958, 12427.

Author : A. Novak, D. Hadzi.

Inst : Academic Council of Federal People's Republic of Yugoslavia.

Title : The Heat of Wetting and Graphitizability of Rasha Coal of Istria.

Orig Pub : Bull. scient. Conseil acad. RPFY, 1953, 1, No 4, 104 - 105.

Abstract : The above mentioned coals are of a dual nature: besides a high content of O, S and volatile substances, which permits to classify them as lignites, these coals possess the properties of softening and swelling. Such a duality is connected with the S content in the coal. The heat of wetting (HW) of these coals in methanol and the coke graphitization were de-

Card 1/2

Had z_i^H, D .

Electronic influences on the quasi-characteristic altered absorption of the carbonyl groups in the quinone series. D. HADZI (Slovene Acad. Sci. Arts, Ljubljana, Yugoslavia). *Arhiv Kem.* 25, 33-8 (1953) (English summary).—The absorption frequencies of the C=O group, resonance energy difference in terms of the resonance integral, and the oxidation-reduction potential in mv. are tabulated for stilbenequinone, diphenylquinone, p-benzoquinone, 1,4-naphthoquinone, anthraquinone, naphthacenequinone, 9,10-phenanthrenequinone, and 1,2-naphthoquinone; furthermore the absorption frequencies were measured for the following free compounds, their K salts, and their $(-\text{SnCl}_4)$ complexes: 1-hydroxyanthraquinone, 2-hydroxyanthraquinone, 1,4-dihydroxyanthraquinone (I), 1,5-dihydroxyanthraquinone (II), 2-hydroxynaphthoquinone, and 5,8-dihydroxynaphthoquinone. The depts. were done with a Hilger spectrophotometer D - 209. The differences in the resonance energies of the quinone and the parent hydroquinone are related to the C=O absorption frequencies. The metal depts. show a strong shift of the absorption band (in Nujol soln.), the amt. of which depends both on the metal chosen and the selected quinone. I and II do not show any stretching of the O—H bond, and replacement of H by D results in the appearance of the typical O—D bands in the spectrum. W. J.

HADZI^H, D. et A. Novak

Ljubljana, Yugo.

Les spectres infrarouges et la structure de quelques sels acides
d'acides carboxyliques.

SO: XL Congresso Nazionale di Fisica e Convegno Internazionale di Studi Sull'Infrarosso,
Parma 3-7 Sept. 1954.

HAD21, I.

FU The heat of wetting of sulfurous coals of Istria and of some other Yugoslav coals. D. Hadži and A. Novak (Univ. Ljubljana, Yugoslavia). *Vestnik Sloven. Kemi. Društva* 1, 175-84(1964).--The heat of wetting and porosity of some Yugoslav coals was detd. with special regard to the sulfurous coals of Istria. These coals, contg. nearly equal amts. of S, show different properties. Timav (8.5% S) and Raša (10.5% S) coal have good swelling and coking properties, their volatile-matter content and heat of wetting being 23.7 and 48.0% and 2.3 and 3.2 cal./g., resp. Sedovlje coal, with nearly the same S and volatile-matter contents as Raša coal, has poor swelling and coking properties and a heat of wetting of 11.5 cal./g. It appears, therefore, that the heat of wetting is most useful in predicting coking properties of a coal. Curves showing the heat of wetting of carbonized coal samples vs. carbonization temp. were characteristic of some of the coal samples. A broad max. between 300 and 400° on the curve for Raša coal corresponds to the very large plastic range of that coal. The curves of the lignitic coals from Kremen and Kakanj were different.

N. Plavšić

Hadzi, D.

200. PRINCIPLES OF PROCESS OF COKE FORMATION. Hadzi, D.
(Ljubljana: Slov. Akad., 1954, Razpr. JA, nat. fiz. kem., vol. 6, (3), 45-71).
Experiments are proceeded on the caking of mixtures of non-caking coals or brown
coals with simple agglutinating substances (synthetic asphaltene). The
object was to throw light on the normal caking of caking coals and the
possibility of producing coke from non-caking coals, by studying the influence
of chemical constitution on agglutinating properties and the nature of the
reaction between the "inert" coal particles and the agglutinating mixture.
(1).

DUSAN HADZI

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The structure of intermediates when carbon is produced from organic compounds, from their infrared and ultraviolet spectra. / Dušan Hadži (Univ. Ljubljana, Yugoslavia). *J. phys. Chem.* 15, 104-6 (1954); cf. *C.A.* 47, 20007. —Tars were obtained from the reaction of naphthalene with $AlCl_3$, by heating naphthalene in an O-free atm.,

and by heating polyvinyl chloride, and their infrared spectra as powders left by evapn. from Tetralin solns. and their ultraviolet spectra in dioxane are given. Similar infrared spectra of tars from heating of anthracene in O-free atm., from the reaction of anthracene and $AlCl_3$, and from heating benzene are also compared.

H. J. Bernstein

10/27/54

HADŽIĆ, D.

Chemical Abstracts
May 25, 1954
Fuels and Carbonization
Products

The carbonization of noncaking coals. D. Hadžić, R. Kavrič, and M. Vauce (Slovakian Acad. Sci., Ljubljana, Yugoslavia). *Brennstoff-Chem.* 35, 44-7 (1954).—With a view to clarifying the mechanism of carbonization, the carbonization of several org. compds. was studied. The first compd. tested was di-2-naphthyl sulfone, which is noncaking in the pure condition, but, when slowly heated, yields a pitch with good caking properties. The 1,2-naphthoquinone has excellent caking properties; weaker but still good caking properties are possessed by 4-hydroxy-naphthyl-1,2-naphthoquinone. Stilbenequinone carbonizes without melting; anthraquinone, tetrahydroanthraquinone, and other quinones sublime. Caking properties are possessed by sucrose, gelatin, and weakly caking properties by asparagine and the hippuric acids. A very strongly caking pitch can be made by the condensation of naphthalene with $AlCl_3$; this has solely characteristics similar to those of the so-called asphalts. The infrared spectra were detd. for the compds. known to be caking. Relative to the reaction between the binding material and the diluent, it is known that asphalts can evolve H under suitable conditions, and that coals can react with H. The hydrogenation of lignite yields a material which not only has caking properties, but is also capable for forming a solid coke with untreated lignite.

R. W. Ryan.

12-12 69

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YUGO.

Infrared absorption spectra and the hydrogen bonding of some chelated hydroxyquinones. D. Hadži and N. Štampar (Inst. Borisa Kidriča, Ljubljana, Yugoslavia). *Trans. Faraday Soc.* 50, 811-18 (1954).—The spectra were recorded with a Perkin-Elmer 21 double-beam spectrophotometer,

equipped with rock salt and LiF prisms. The hydroxyquinone absorption bands were: $\nu(\text{OH})$, about 2900 (broad and strong); $\delta(\text{OH})$ (in-plane), $\nu(\text{C}=\text{O})$, 1250 ± 70 (two bands, strong); $\delta'(\text{OH})$ (in-plane), 1160 ± 10 (medium); $\gamma(\text{OH})$ (out-of-plane), $770 \pm 30 \text{ cm}^{-1}$ (broad and strong). The D derivs. had the corresponding frequencies: $\nu(\text{OH})$, about 2350; $\nu(\text{C}=\text{O})$, 1265 ± 20 ; $\delta, \delta'(\text{OD})$, 980 ± 40 and $840 \pm 10 \text{ cm}^{-1}$. Data were reported for the 1-OH-, 1,4-(HO)-, 1,6-(HO)-, 1,4,5,8-(HO)-, 1,4-(DO)-, 1,6-(DO)-, 1,4,5,8-(DO)- derivs. of anthraquinone; also for 6,8-dehydroxynaphthaquinone. The OH frequencies near 2900 cm^{-1} showed that H bonding in these 6-membered chelated rings was stronger than usual. Nevertheless, the H atom remained covalently bonded to an O atom.

Victor R. Deltz

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PM

11A12: D.

62

✓ Absorption spectra and structure of sulfonic acids. S.

Leten and D. Kadi (Univ. Ljubljana, Yugoslavia) 17.

~~Chem. Abstr. 1978:100000~~ (1978) 46 (1978) 100000.

The authors have made assignments of infrared bands

characteristic for benzene, p-toluenes, 2-naphthalene, and

1-methyl-2-naphthalene acids, their Me esters, K salts,

and 2,6-dimethyl-4-nitrophenol, by hydrolysis of

the corresponding acid chlorides with KOH . Infrared and ultraviolet

spectra of the acids and the structure R-S- O_3H for aromatic

acids and the structure R-S- O_3H for aromatic

acids and the structure R-S- O_3H for aromatic

acids and the structure R-S- O_3H for aromatic

acids and the structure R-S- O_3H for aromatic

Ruta E. Tassat

EE

CH

PH

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HADZI, D.

PK
① Infrared spectra and structure of graphite oxide. D. Hadzi and A. Novak (Univ. Ljubljana, Yugoslavia). *Chem. Phys. Lett.* 2, 43 (1973) (in English).—Spectra of graphite oxide (I) prepd. by oxidizing samples of graphite of various origins with a mist. of fuming HNO_3 and KClO_4 were made. The H_2O content of air-dried I is lowered by strong bands near 3400 and 1620 cm^{-1} , which persisted even after drying in high vacuum over P_2O_5 for a week. Further bands of moderate to weak intensity appear at 1720 , 1420 , 1300 , 1070 , and 680 cm^{-1} . The 1720 - cm^{-1} band is assigned to the CO group, since it moved to 1740 cm^{-1} upon methylation with diazomethane. The 1070 - cm^{-1} band appears to be due to a CO group, as it shifted to 1110 cm^{-1} upon methylation. On acetylation of I a band characteristic of acetate appears at 1250 cm^{-1} , which is taken as evidence for the existence of covalent C—O bonds in I. It is concluded that I contains distinct OH groups the protons of which are marked by low mobility. Spectra of H_2S -treated I showed no distinct bands at all indicating a reversal of I to graphite. N. Plavšić

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smm

Hader, G.

PK
BH
①
V Infrared spectra and structure of sulfonic acids. S. Detoni
and D. Hadzi (Univ. Ljubljana, Yugoslavia). *Bull. soc. chim. Belgrade*, 44-5 (1955) (in English).
Spectra of benzene-, p-toluene-, and 2-naphthylsulfonic acids are given. On the basis of these spectra evidence is found for the resonance $\text{OS:O}^- \longleftrightarrow \text{O:SO}^-$ in the ionized sulfonic group. N. Plavsk.

Small
RM

Hadzi - P

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EL
FU

Infrared spectra of polychloronaphthalenes. L. Cenceli and D. Hadzi (Academy, Ljubljana, Yugoslavia). *Spectrochim. Acta*, 1, 274-32 (1955). The published infrared spectra of substituted naphthalenes are limited mainly to monosubstituted and disubstituted compds. No general correlation rules between the bands and the type of substitution were established. In the course of a study of the chlorination of naphthalene, with a Perkin-Elmer Model 21 double-beam spectrophotometer, the infrared spectra between 1650 and 650 cm^{-1} of the complete range of dichloro- and trichloronaphthalenes, and 9 of the isomers of tetrachloronaphthalenes have been observed; they are presented in graphs and in tables of wave numbers. The possibility of applying correlation rules valid for benzene substitution in the naphthalene series is briefly discussed. W. F. Meggers.

pm jdk

HADZ1-1D

Chem
Infrared spectra of graphitic oxide. D. Hada and A. Novak (Horis Kidric Acad., Ljubljana, Yugoslavia). Trans. Faraday Soc. 51, 1814-20 (1955); cf. C.A. 49, 12961d. Madagascar and Acheson graphites were used. Graphitic oxide was prepd. by the method of Brodie (Annales 114, 6 (1860)). The samples were examd. in translucent films (5-15 μ) as well as finely ground in paraffin oil and in perfluorokerosine. Dried oxide showed a very strong band with a rather sharp peak at 3430 cm^{-1} and a shoulder at 3020 cm^{-1} . Bands of 3250 cm^{-1} and 1610 cm^{-1} were assocd. with the stretching and deformation modes, resp., of the water mols. The band at 3430 cm^{-1} was assigned to the stretching motion of some other OH groups, probably belonging to graphitic oxide. Attempted exchanges of graphitic oxide with D_2O failed. Victor R. Deltz

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PM

HADZI, D

Absorption spectra and structure of some solid benzoxazole compounds. D. Hadzi (Univ. Ljubljana, Yugoslavia). *J. Chem. Soc.* 1956, 2143-50. — Infrared and electronic spectra were investigated of solid 1-phenylazo-2-naphthol, 2-phenylazo-1-naphthol, 4-phenylazo-1-naphthol, their deuteriated analogs, as well as of the O-methyl derivs. Infrared spectra of o- and p-phenylazophenol were also investigated. The last 2 compds. have been found to exist as true azo compds, whereas both types of spectra indicate that the naphthazene derivs. exist in the solid state either as pure phenylhydrazones (O,4-naphthoquinone monophenylhydrazone) or as mixts. of both tautomeric forms.

Colom

480

J.W. Hertz

Hadzi, D.

YUGOSLAVIA/Optics - Spectroscopy

K-7

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 11928

Author : Hadzi D., Novak A.

Inst : University, Ljubljana; Chemical Institute "Boris Kidric"

Title : Infrared Spectra of Lignites

Orig Pub : Bull. scient. Conseil acad. RPFY, 1956, 3, No 2, 42-43

Abstract : Infrared spectra were obtained for the components of brown coal (lignite, xylite, and humic acids) and also of wood, cellulose, and lignines. The spectrum of xylite is quite similar to the spectrum of cuts of fir trees and can be considered as a superposition of the spectra of lignine and cellulose with that difference, that in the spectra of wood and cellulose two narrow peaks 1030 and 1060 cm^{-1} appear instead of a broad band in the region of 1050 cm^{-1} . After processing with water in an autoclave, the cellulose becomes destroyed. Comparison of the lignite spectra before and after methylation by diazomethane indicates a low content of carboxyl groups in the lignite. The work will be published in detail

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Handwritten: *H. O. D.*

✓ The infrared absorption bands associated with the COOH and COOD groups in dimeric carboxylic acids. II. The region from 3700 to 1500 cm^{-1} . S. Bratoč, D. Hadži, and N. Sheppard (Kemisti Inst., Beograd, Yugoslavia). *Spectrochim. Acta* 8, 249-61 (1953); cf. C.A. 47, 6798c. — The infrared spectra of a no. of dimeric carboxylic acids and their deuterio (COOD) analogs have been investigated in the region of 3700-1500 cm^{-1} . The substances were studied in the vapor, liquid, and cryst. solid states, and in soln. in CCl_4 . In some cases observations were made over a range of temp. which extended down to that of liquid air. Particular attention was paid to the main broad νOH (νOD) absorption regions centered at 3000 cm^{-1} (2400 cm^{-1}) and also to the weaker satellite bands to lower frequencies centered near 2850 cm^{-1} (2100 cm^{-1}). The structure of the satellite bands, the presence of intensity submax. on the main νOH (νOD) bands, and the general differences in appearance of the νOH and νOD absorption regions are reasonably explicable in terms of combination, mostly summation, frequencies involving lower-frequency fundamentals of the COOH (COOD) groups. The summation bands are probably enhanced in intensity by Fermi resonance with the fundamentals responsible for the main νOH (νOD) absorption regions. W. F. Meggers

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Hadži, D.

5

Infrared spectra of humic acids and their derivatives.
M. Čeh and D. Hadži (Inst. "Boris Kidrič," Ljubljana, Yugo.). *Fuel* 38, 1-8 (1959).—Infrared spectra of a number of humic acid preps., synthetic and from coal, have been investigated. Some of the assignments to typical bands have been made following the alterations produced on methylation of humic acids with various reagents. A close structural relation has been shown to exist between humic acids from various origins.
Roger W. Ryan

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HADZI, D.

Chem

Infrared absorption bands associated with the chelate ring in some unsaturated hydroxycarbonyl compounds. S. Bratch, D. Hadzi, and G. Rossini (Chim. Ind. (Milan), 42, 1418-1422, 1960). The spectra of acetylacetone, acetylchloroacetone, acetoacetic ester, dibenzoylmethane, benzoylacetone, and of their D substituted equiv. were detd. The bands controlled mainly by the vibrations of the OH group were: ν (OH) ca. 2700 ± 100 (very broad and weak), δ (OH) (in-plane) 1435 ± 35 ; ν (C=O) 1284 ± 34 ; γ (OH) (out-of-plane) 948 ± 13 cm.⁻¹ (all medium). The wave nos. of the corresponding OD bands were: ν (OD) 1900 ± 30 ; δ (OD) 1090 ± 20 ; ν (C=O) 1270 ± 25 ; γ (OD) 697. The OH bands of dimeric carboxylic acids, enolized diketones, and hydroxyquinones are listed. The OH groups of acids and of enolized diketones have a close structural relation.

Victor R. Ditz

W. J. ...

19
The tunnelling of the protons as a cause of the splitting of hydroxyl stretching bands. R. Blinc and D. Hadzi (Univ. Ljubljana, Yugoslavia). *Hydrogen Bonding, Papers-Symposium Ljubljana 1957*, 147-53 (Pub. 1959).--The results of solving the Schrödinger equation for the simple case of a proton moving in a potential field with 2 equal minima are given for a series of physically possible parameters. Several examples of infrared spectra containing double ν OH bands such as KH_2PO_4 , carboxylic acids, and seleninic acid, are discussed and compared with the results of the calculations.

Kenneth M. Sauer

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✓ The hydrogen bonds and structure of naphthazarin. R. Blinc, D. Hadzi, and E. Pirkmajer (Univ. Ljubljana, Yugoslavia). Hydrogen Bonding. Papers Symposium Ljubljana, 1957, 333-8 (Pub. 1959). The infrared and electronic spectra and the dipole moment of naphthazarin (I) were detd. and interpreted. The results show definitely that the H bonds in I are of the nonsym. type. The possibility of the tunnelling of the protons is discussed briefly.
11/22 Kenneth M. Sancier

21
Integrated absorption bands associated with the π - π^* transition
Some secondary aromatic amines, D. Hadzi and M.
Skrbaliak (Inst. Chem., Acad. Sci., Czechoslovakia,
J. Chem. Soc. 1959, 2411). The spectra of some π - and
ring-substituted aromatic amines studied with special attention
to the bands of π - π^* transition and C-H stretching vibra-
tions. The following table gives the π - π^* transition
bands and π - π^* transition bands of some aromatic amines.

HADZI, D

Distr: 4E20(1)

Infrared spectra and hydrogen bonding in nickel dimethylglyoxime and related complexes. R. Blinc and D. Hadzi (Univ. Chem. Lab., Ljubljana, Yugoslavia). *J. Chem. Soc.* 1958, 1890-40. — Infrared spectra of dimethylglyoxime complexes of Ni, Pd, Pt, and Cu, of the 1,2-cyclohexanedione dioxime complexes of Ni and Pd, and of the Na and K hydrogen dimethylglyoxime derivs. were investigated. The following band assignments have been proposed: ν_{OH} 2300-800 cm^{-1} , ν_{OH} 1650-1800 cm^{-1} , ν_{C-N} 1500-1600 cm^{-1} , ν_{N-O} near 1240 and 1000 cm^{-1} , and ν_{OH} 820-630 cm^{-1} . The deuteriated derivs. were also studied. The H bonds in these complexes cannot be of the sym. type, as suggested earlier (cf. Rundle and Parasol, *C.A.* 46: 10713a).

6
2-May
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HADZI D.

Infrared spectra of some ferroelectric compounds with short hydrogen bonds. R. Blinc and D. Hadzi (Inst. Boris Kidric, Ljubljana, Yugoslavia). *Mol. Phys.* 1, 391-405 (1958).—The spectra of KH_2PO_4 , $\text{NH}_4\text{H}_2\text{PO}_4$, NaH_2PO_4 , KH_2AsO_4 , $\text{NH}_4\text{H}_2\text{AsO}_4$, $\text{Ag}_3\text{H}_4\text{IO}_4$, and $(\text{NH}_4)_3\text{H}_4\text{IO}_4$ and of their deuteriated analogs have been recorded at room temp. and some of them also at low temp. in the ferroelec. phase. The interpretation of the region 3000-1500 cm^{-1} , contg. several OH bands, has been made in terms of the tunneling of the protons between 2 min. of potential energy, of equal depth in the nonferroelec. phase and unsym. in the ferroelec. form. A quantum-mech. treatment of the vibrational problem of the latter type has been carried out; the agreement between theory and expt. is good.

Walter G. Rothschild

HADZI, D.

1 / The infrared spectra of mixtures of carboxylic acids with pyridine and of the pyridine carboxylic acids. The position of the proton in the respective hydrogen bonds. D. Hadzi (Kem. Inst. "Borja, Kladar," Ljubljana, Yugoslavia). Vestnik Sloven. kemi. društva 5, 21-33 (1958) (in English).
 A study of infrared spectra of equimol. mixts. of pyridine with benzoic, acetic, propionic, or butyric acids as well as of nicotinic, isonicotinic, and picolinic acids in the 3500-1000-cm.⁻¹ and 1500-700-cm.⁻¹ regions indicates the tunneling of the proton between two min. of potential energy gives rise to 2 OH bands, rather than to an OH stretching band strongly shifted owing to H bonding. N. Planin

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 1-228(18)

SR

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/ Infrared spectra of hydrogen-bonded compounds exhibiting polymorphism. I. 2,5-Dihydroxybenzoquinone. D. Hadži and A. Stojiljković (Kem. inst. "Boris Kidrič," Ljubljana, Yugoslavia). *Vestnik sloven. kem. društva* 5, 75-80(1958)(in English).—Band assignment of 2 crystal modifications of 2,5-dihydroxybenzoquinone was made at 3300, 1307, 1200, 1100, 1113, 1040, 832, 823, 740, and 3130, 2480, 2330, 1325, 1307, 1210, 1118, 1103, 1100, 950, and 708 cm^{-1} , resp. The differences in the crystal structures of both forms indicate differences in their H bonding.
N. Planšić

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aht

D. Hadzi

The OH in-plane deformation and the C=O stretching frequencies in monomeric carboxylic acids and their associated shifts. D. Hadzi and M. Pilar (Univ. Chem. Lab. Inst. "B. Kladar, Ljubljana, Yugoslavia). *Spectrochim. Acta* 12, 162-8 (1958).—Infrared spectra, 1500-700 cm^{-1} , of 6 carboxylic acids and their D analogs in the vapor state at 150-160° are reported. A possible assignment of the bands mentioned in the title is discussed on the basis of the shifts due to D substitution, and of assocn. to dimers and assocn. with pyridine, resp. William F. Meggers

4
2. May

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~~SECRET~~ HADZ, D.

Distr: HE2c(1)/HE3d

Infrared spectra of mixtures of carboxylic acids with pyridine and tunneling in the OH...N hydrogen bond. Dusan Hadzi (Univ. Ljubljana, Yugoslavia). *Z. Naturforsch.* **B2**, 1167-68 (1968). — The infrared spectra of a liquid capillary layer of an equimolar mixt. of BzOH and C₆H₅N at room and liquid-N temps., and of BzOD and C₆H₅N at room temp. are reported, and bands at 2500 and 1900 cm⁻¹ are reported for BzOH. They are interpreted as due to the OH frequency split by tunneling. H. H. Jaffe

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2-may
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St. V. C. H.

BOZIC, P.; HADZI, D.; NOVAK, A.

Heats of wetting and adsorption isotherms of Velenje lignite and
xylite. Bul sc Jug 5 no.2:38-39 Mr '60. (EEAI 9:8)

1. Chemical Institute "B.Kidric", Ljubljana and Chemical Institute,
University, Ljubljana.

(Heat of wetting)	(Absorption)	(Slovenia--Legnite)
(Coke)	(Methanol)	(Coal)

174021, D.

Distr: 4E3d

Hydrogen bonding in bis(*p*-chlorophenyl) hydrogen phosphate. D. Hadji and A. Novak (Univ. Ljubljana, Yugoslavia). *Proc. Chem. Soc.* 1960, 241-2. The infrared spectrum of cryst. bis(*p*-chlorophenyl) H phosphate differs remarkably from those of similar esters, for no band in the conventional hydroxyl stretching region is observed; instead, a broad band at 1410 cm^{-1} is reported, which is absent from the spectrum after deuteration and also of the Na salt, and is thus assigned to the OH stretching vibration of the P.OH group. The stretching vibrations of the H-bonded PO groups are tentatively assigned to the bands of 1205 and 1190 cm^{-1} , significantly at positions different from those for the other H phosphates. A strong band at 1115 cm^{-1} is assigned to a P.OH bending mode. The spectra of the substance which has been melted and cooled to room temp. without cryst. and of the soln. in CCl_4 are, however, similar to those of the related esters. By comparing the above results with those of KH bis(phenylacetate) (for which independent evidence regarding the nature of H bonds exists), it is concluded that the H bond in the cryst. bis(*p*-chlorophenyl) H phosphate is symmetrical. S. S. Mitra

4.
1-2w(Bu)
1-2g(Na)
1-2g(Mg)

HADZI, D.

✓ Infrared and proton magnetic resonance spectra of solid substances containing very short hydrogen bonds. R. Blinc and D. Hadzi (Univ., Ljubljana, Yugoslavia). *Spectrochim. Acta* 16, 853-82 (1960) (in English).—From the data obtained, the compds. could be divided into 2 groups. In the 1st group, the compds. are RH_2AsO_4 , $R = K, NH_4$; RH_2PO_4 , $R = K, NH_4, Na$; $RHPO_4$, $R = Ca, Ba$; RH_2IO_4 , $R = Ag, NH_4$; K and NH_4 H phthalates; K H bis- β -nitrobenzoate. The infrared spectra show 3 OH-stretching bands in the region 1900–3000 cm^{-1} , sepd. by 300–500 cm^{-1} . The magnetic resonance signals are strong and narrow (3–5 gauss) at room temp. and slightly broader at -180° . The compds. in the 2nd group are Ni dimethylglyoxime; $Na_2CO_3 \cdot NaHCO_3 \cdot 2H_2O$; K H bisphenylacetate, dibenzoate, and maleate. There is no OH-stretching band in the region above 1800 cm^{-1} . The resonance signals are narrow and weak at room temp., they change little at low temp. The results can be interpreted with a proton potential function having 2 min. and sepd. by a barrier of different size in the 2 groups. In the 1st group, the barrier is low enough so that proton tunnelling occurs and the vibrational levels split. The potential function also causes a short correlation time in the proton resonance. It is temp. independent at low temp. when the proton tunnels at the lowest vibrational level. In the 2nd group the potential barrier approaches zero and the H bond is nearly of the sym. type. The OH-stretching mode has a low frequency and its characteristic property is lost by interaction with other vibrational modes. In the limit, there is no tunnelling, the relaxation time becomes long, the signal is weak, and satn. occurs even at low radio-frequency power. The extreme case is approached by the maleate.

George M. Murphy

67K

BLINC, Robert; HADZI, Dusan

Proton tunneling in hydrogen short bonds, and its influence
on the infrared spectra and proton magnetic resonance.
Glas Hem dr 25/26 no.3/4:169-170 '60/'61

1. Kemijski institut "Boris Kidric," Ljubljana.

BLINC, Robert; HADZI, Dusan

Electronic and infrared spectra of naphthazarin and its ethers.
Glas Hem dr 25/26 no.3/4:171-172 '60/'61

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by the acetylcholine content of the milk. A. E. Meyer.

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